UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ANDREAS BULAN
and
GUNTER LAILACH

Appeal No. 2005-0374
Application No. 09/891,780

ON BRIEF

Before PAK, TIMM, and DELMENDO, *Administrative Patent Judges.*

TIMM, *Administrative Patent Judge.*

DECISION ON APPEAL

This appeal involves claims 1-4 which are all the claims pending in the application. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 134.

INTRODUCTION

The Examiner maintains rejections under 35 U.S.C. §§ 102(b) and 103(a).[1] As evidence of unpatentability, the Examiner relies upon the following documentation:

Smith et al. (Smith) 5,089,241 Feb. 18, 1992

Admitted Prior Art, Specification, p. 3, ll. 4-7

The Examiner rejects Claims 1, 2, and 4 under 35 U.S.C. § 102(b) as being clearly anticipated by Smith and further rejects claims 1-4 under 35 U.S.C. § 103(a) as unpatentable over Smith in view of the Admitted Prior Art. The bases for rejection are articulated on pages 3 and 4 of the Answer.

Appellants state that "[c]laims 1-4 are appealed together." (Brief, p. 3).[2] No claim is argued separately (Brief, § VIII). We select claim 1 to represent the issues on appeal for each of the rejections. Claim 1 reads as follows:

1. A process for removing arsenic compounds from the distillation bottoms obtained in the distillation of arsenic-containing hydrogen fluoride comprising
(a) concentrating distillation bottoms by evaporation of hydrogen fluoride until the temperature at the bottoms is from 40 to 60°C, and
(b) reacting residue resulting from (a) with calcium hydroxide, calcium oxide, or a mixture thereof.

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[1]The Examiner states that issues 3 and 4 (Brief, § VI), i.e., the rejections under 35 U.S.C. § 112, have been overcome (Answer, § (6)).

[2]All references to the "Brief" are to Appellants' Corrected Appeal Brief filed on June 7th, 2004. The Corrected Brief replaced the Brief filed on December 22nd, 2003 which replaced the Brief filed October 17th, 2003. We, therefore, consider the issues as addressed in the Corrected Brief of June 7th, 2004 and the Answer mailed August 2nd, 2004.

OPINION

In rejecting claims 1, 2, and 4 as anticipated by Smith, the Examiner relies upon columns 5-8 of Smith and the examples without further explanation. Our review of those sections of Smith does not convince us that Smith "describes" the process of the claims within the meaning of § 102. In order to anticipate, the reference must clearly and unequivocally disclose the claimed invention or direct those skilled in the art to the invention without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference, *In re Arkley*, 455 F.2d 586, 587, 172 USPQ 524, 526 (CCPA 1972), and picking and choosing from among the disclosures of Smith is required to meet the limitations of claim 1, the independent claim. As stated in *Arkley*, "[s]uch picking and choosing may be entirely proper in the making of a 103, obviousness rejection, where the applicant must be afforded an opportunity to rebut with objective evidence any inference of obviousness which may arise from the similarity of the subject matter which he claims to the prior art, but it has no place in the making of a 102, anticipation rejection." *Arkley*, 455 F.2d at 587-88, 172 USPQ at 526.

The above being said, we agree with the Examiner that there is a *prima facie* case of obviousness. Smith, like Appellants, is concerned with removing arsenic compounds from distillation bottoms in a process of purifying hydrogen fluoride (Smith, col. 5, ll. 17-22). According to Smith, various processes of purifying hydrogen fluoride involve distillation (Smith, col. 2, ll. 48-52). During distillation, impurities plus some hydrogen fluoride collect in the bottom of the distillation column (Smith, col. 2, ll. 52-54). The bottoms typically contain, among

other things, hexafluoroarsenic acid or salt thereof (Smith, col. 2, ll. 52-59). The process of Smith is directed to recovery of hydrogen fluoride from the bottoms and conversion of the hexafluoroarsenic acid or salt thereof to a form that can be rendered nonhazardous (Smith, col. 3, ll. 61-66).

Smith accomplishes recovery and conversion by steps of concentrating the bottoms (Smith, col. 6, ll. 8-19) and performing hydrolysis to convert the hexafluoroarsenic acid or salt thereof within the bottoms to arsenic acid or salt thereof (Smith, col. 8, ll. 1-17). In the concentration step, the bottoms are heated to a temperature of about 50° C to about 150° C such that hydrogen fluoride is vaporized (Smith, col. 6, ll. 8-19). Smith further suggests using known methods to render the bottoms residue nonhazardous (Smith, col. 8, ll. 30-44). For example, the residue acid mixture of the bottoms may be reacted with calcium oxide (Smith, col. 8, ll. 38-44).[3] Therefore, Smith suggests (a) concentrating at temperatures overlapping those claimed and (b) reacting residue resulting from (a) with calcium oxide in order to obtain a nonhazardous waste material.

With regard to obviousness, Appellants argue that the Examiner erred in ascertaining the difference between the prior art and the claims (Brief, p. 6). Further, according to Appellants, "[n]othing of record provides a basis for modifying Smith to the claims." (Brief, p. 7). It appears from the arguments that Appellants believe that the "difference" between the process of Smith

[3]Smith also discusses reacting with calcium hydroxide (Smith, col. 8, ll. 46-52).

and that of claim 1 is the presence of the hydrolysis step in the process of Smith, a step according to Appellants which is not required in their process, and the difference in temperature. Appellants' argument assumes that claim 1 excludes the hydrolysis step performed by Smith. On the other hand, the Examiner has determined there is no such exclusion (Answer, p. 4).

We determine that it is reasonable here to interpret claim 1 as encompassing processes with an intervening step of hydrolysis between the concentrating and reacting steps. Claim 1 is open to the inclusion of additional steps by virtue of the use of the transitional phrase "comprising." *See In re Baxter*, 656 F.2d 679, 686, 210 USPQ 795, 802 (CCPA 1981). Moreover, Appellants do not point to any particular language in the claim which precludes a step of hydrolysis. Appellants have not convinced us that the Examiner's claim interpretation is unreasonable.

With regard to the other "difference" between the process of Smith and that of the claim, i.e., the difference in temperature in the concentration step, Smith describes operating the evaporator at temperatures of about 50° C to about 150° C, temperatures overlapping the claimed range, to evaporate off hydrogen fluoride and thus concentrate the hexafluoroaresenic acid or salt thereof in the bottoms. The suggestion of using temperatures that overlap the claimed range for performing the same operation as claimed is a sufficient suggestion to support a *prima facie* case of obviousness. *In re Geisler*, 116 F.3d 1465, 1469, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (CCPA 1976); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

The Examiner has sufficiently established the unpatentability of claim 1. Claims 2-4 stand or fall with claim 1, and therefore, we need not discuss the Admitted Prior Art which the Examiner relied upon to establish the obviousness of claim 3. We conclude that the Examiner has established unpatentability with respect to the subject matter of claims 1-4 which has not been sufficiently rebutted by Appellants.

CONCLUSION

To summarize, the decision of the Examiner to reject claims 1, 2, and 4 under 35 U.S.C. § 102(b) is reversed, but the decision of the Examiner to reject claims 1-4 under 35 U.S.C. § 103(a) is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

CHUNG K. PAK
Administrative Patent Judge

CATHERINE TIMM
Administrative Patent Judge

ROMULO H. DELMENDO
Administrative Patent Judge

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